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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,032	07/31/2003	Tirdad Sowlati	051933-1090	9657
24504	7590	11/22/2004	EXAMINER	
THOMAS, KAYDEN, HORSTEMEYER & RISLEY, LLP 100 GALLERIA PARKWAY, NW STE 1750 ATLANTA, GA 30339-5948				SHINGLETON, MICHAEL B
		ART UNIT		PAPER NUMBER
		2817		

DATE MAILED: 11/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Rfn

Office Action Summary	Application No.	Applicant(s)	
	10/632,032	SOWLATI, TIRDAD	
	Examiner	Art Unit	
	Michael B. Shingleton	2817	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
 THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on _____.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-44 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) 8-44 is/are allowed.
- 6) Claim(s) 1 and 5-7 is/are rejected.
- 7) Claim(s) 2-4 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date _____
- 4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 and 7 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Koyama et al. 5,384,501 (Koyama).

Figure 3 of Koyama and the relevant text discloses a variable gain amplifier system (See columns 6 and 7) having a degeneration element 18 coupled to the differential pair of transistors 11, 12 and a collector load 23 that is of a “similar type” to the degeneration element. Note that element 18 and element 23 are both FETs and therefore are “of a similar type”. The collector load is clearly shown a coupled to the differential pair of transistors. The gain of the amplifier is clearly a function of both the degeneration element 18 and the collector load 23. For a differential input control voltage equal to zero i.e. the voltage applied to element 23 at node 24, it is an inherent characteristic that the physical dimension ratio of the collector load to the degeneration element “determines the gain” (See column 7 around line 63). The voltage at the node 24 qualifies as a “differential input control voltage” for its value controls the gain of the differential arrangement as is clearly recited above. The differential input control voltage of is clearly derived from a single ended voltage and a “bandgap voltage” for the differential input voltage of Koyama is a single ended voltage and it inherently must be derived from a “bandgap voltage”, i.e. threshold voltage in order for the differential voltage to control the FETs 18 and 23 otherwise the recited control would not be occur.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koyama et al. 5,384,501 (Koyama).

Koyama as applied above and the following: Claim 5 and 6 recite a "second variable gain amplifier" having the same structure as the first with a substantially constant gain when the second differential input control voltage is equal to zero volts. No connection between the first and second variable gain amplifiers is claimed. Thus, clearly Koyama is not limited to a single copy of the variable gain amplifier. Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to form more than one copy of the variable gain amplifier of Koyama. Also it is well known to form a cascade arrangement of variable gain amplifiers so as to adjust the gain over a wider range. Thus it also would have been obvious to one of ordinary skill in the art at the time the invention was made to have made a cascade arrangement of the variable amplifiers of Koyama so as to adjust the gain over a wider range. Note that in the invention made obvious above with the two differential input control voltages equal to zero volts that the gain of these amplifiers are "substantially constant".

Claims 2-4 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 8-44 are allowed.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Harford 4,344,044 discloses the same basic differential arrangement having the collector and degeneration "loads" or variable resistive elements. Hirai JP 10256856 discloses a state of the art AGC circuit.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael B. Shingleton whose telephone number is (571) 272-1770. The examiner can normally be reached on Tues-Fri from 8:30 to 4:30. The examiner can also be reached on alternate Mondays. The examiner normally has the second Mondays of the bi-week off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal, can be reached on (571)272-1769. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2817

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MBS

November 04, 2004

Michael B. Shingleton
MICHAEL B. SHINGLETON
PRIMARY EXAMINER
ARCHIPART II UNIT 917